

| <b>FORM PTO-1449 U.S. Department of Commerce</b><br><b>Patent and Trademark Office</b>      |    |                    |          | Attorney Docket Number:<br>RAL919980074US2/4269-61CT |       | Serial No.:<br>to be assigned |                                  |
|---|----|--------------------|----------|--|-------|-------------------------------|----------------------------------|
| <b>LIST OF DOCUMENTS CITED BY APPLICANT</b><br><br><b>(Use several sheets if necessary)</b> |    |                    |          | Applicants: Abdelilah et al.                         |       |                               |                                  |
|   |    |                    |          | Filing Date: concurrently herewith                   |       | Group: unknown                |                                  |
| <b>U. S. PATENT DOCUMENTS</b>   |    |                    |          |  |       |                               |                                  |
| Examiner<br>Initial   |    | Document<br>Number | Date     | Name   | Class | Subclass                      | Filing Date<br>if<br>Appropriate |
| <i>Fhr</i>  | 1  | 6,002,723          | 12/14/99 | Chethik  | 375   | 317                           |                                  |
|   | 2  | 6,005,893          | 12/21/99 | Hyll   | 375   | 260                           |                                  |
|   | 3  | 6,081,822          | 06/27/00 | Hillery et al.                                       | 708   | 445                           |                                  |
|   | 4  | 6,052,412          | 04-18-00 | Ruether et al.                                       | 375   | 231                           |                                  |
|   | 5  | 6,091,824          | 7/2000   | Lin et al.   | 381   | 63                            |                                  |
|   | 6  | 6,148,423          | 11-14-00 | Le Mouel et al.                                      | 714   | 708                           |                                  |
|   | 7  | 6,151,364          | 11-21-00 | Ruether et al.                                       | 375   | 254                           |                                  |
|   | 8  | 6,151,614          | 11-21-00 | Ikeda  | 708   | 322                           |                                  |
|   | 9  | 6,141,378          | 10/31/00 | d'Orcye de Lantremange                               | 375   | 232                           |                                  |
|   | 10 | 6,167,095          | 12/26/00 | Furukawa et al.                                      | 375   | 285                           |                                  |
|   | 11 | 6,240,128          | 5/2001   | Banerjea et al.                                      | 375   | 222                           |                                  |
|   | 12 | 6,292,654          | 9/2001   | Hesscl et al.  | 375   | 346                           |                                  |
|   | 13 | 6,304,594 B1       | 10/16/01 | Salinger   | 375   | 222                           |                                  |
|   | 14 | 6,337,999          | 1/2002   | Orban  | 381   | 106                           |                                  |
|   | 15 | 6,341,360          | 1/2002   | Abdelilah et al.                                     | 375   | 233                           |                                  |
|   | 16 | 5,517,213          | 05-14-96 | Bhatt et al.   | 375   | 232                           |                                  |
|   | 17 | 5,526,378          | 06-11-96 | Knutson et al.                                       | 375   | 229                           |                                  |
|   | 18 | 5,668,833          | 09-16-97 | Kurokami et al.                                      | 375   | 233                           |                                  |
|   | 19 | 5,742,642          | 04-21-98 | Fertner  | 375   | 233                           |                                  |
|   | 20 | 5,999,349          | 12-07-99 | Choi   | 360   | 46                            |                                  |
|   | 21 | 5,007,047          | 4/8/91   | Sridhar et al.                                       | 370   | 32.1                          |                                  |
|   | 22 | 5,249,205          | 09-28-93 | Chennakeshu et al.                                   | 375   | 101                           |                                  |
|   | 23 | 5,271,011          | 12-14-93 | McMullan, Jr. et al.                                 | 371   | 5.3                           |                                  |
|   | 24 | 5,293,401          | 03-08-94 | Serfaty  | 375   | 13                            |                                  |
|   | 25 | 5,309,484          | 05-03-94 | McLane et al.  | 375   | 106                           |                                  |
|   | 26 | 5,490,169          | 02-06-96 | Blackwell et al.                                     | 375   | 232                           |                                  |
|   | 27 | 5,471,508          | 11/28/95 | Koslov   | 375   | 344                           |                                  |

EXAMINER  
\*EXAMINER*Parry Ahern*DATE CONSIDERED *2/2005*  
Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in

FORM PTO-1449 U.S. Department of Commerce  
Patent and Trademark Office

## LIST OF DOCUMENTS CITED BY APPLICANT

(Use several sheets if necessary)

Attorney Docket Number:  
RAL919980074US2/4269-61CT

Serial No.:  
to be assigned

Applicants: Abdelilah et al.

Filing Date: concurrently herewith Group: unknown

|           |    |           |          |                  |     |      |  |
|-----------|----|-----------|----------|------------------|-----|------|--|
| <i>PL</i> | 28 | 5,710,793 | 01/20/98 | Greenberg        | 375 | 232  |  |
|           | 29 | 5,987,069 | 11/16/99 | Furukawa et al.  | 375 | 285  |  |
|           | 30 | 5,835,538 | 11/10/98 | Townshend        | 375 | 295  |  |
|           | 31 | 5,831,561 | 11/3/98  | Cai et al.       | 341 | 106  |  |
|           | 32 | 5,809,075 | 9/15/98  | Townshend        | 375 | 340  |  |
|           | 33 | 5,801,695 | 9/1/98   | Townshend        | 375 | 340  |  |
|           | 34 | 5,793,809 | 8/11/98  | Holmquist        | 375 | 242  |  |
|           | 35 | 5,784,405 | 7/21/98  | Betts et al.     | 375 | 222  |  |
|           | 36 | 5,778,024 | 7/7/98   | McDonough        | 375 | 216  |  |
|           | 37 | 5,768,311 | 6/16/98  | Betts et al.     | 375 | 222  |  |
|           | 38 | 5,761,247 | 6/2/98   | Betts et al.     | 375 | 316  |  |
|           | 39 | 5,757,849 | 5/26/98  | Gelblum et al.   | 375 | 222  |  |
|           | 40 | 5,754,594 | 5/19/98  | Betts et al.     | 375 | 285  |  |
|           | 41 | 5,729,226 | 3/17/98  | Betts et al.     | 341 | 94   |  |
|           | 42 | 5,598,401 | 1/28/97  | Blackwell et al. | 379 | 94   |  |
|           | 43 | 5,546,395 | 8/13/96  | Sharma et al.    | 370 | 84   |  |
|           | 44 | 5,534,913 | 7/9/96   | Majeti et al.    | 348 | 7    |  |
|           | 45 | 5,528,679 | 6/18/96  | Taarud           | 379 | 34   |  |
|           | 46 | 5,528,625 | 6/18/96  | Ayanoglu et al.  | 375 | 222  |  |
|           | 47 | 5,406,583 | 4/11/95  | Dagdeviren       | 375 | 5    |  |
|           | 48 | 5,394,437 | 2/28/95  | Ayanoglu et al.  | 375 | 222  |  |
|           | 49 | 5,394,110 | 2/28/95  | Mizoguchi        | 329 | 304  |  |
|           | 50 | 5,291,479 | 3/1/94   | Vaziri et al.    | 370 | 58.2 |  |
|           | 51 | 5,253,291 | 10/12/93 | Naseer et al.    | 379 | 406  |  |
|           | 52 | 5,293,401 | 3/1994   | Serfaty          | 375 | 231  |  |
|           | 53 | 5,210,755 | 5/11/93  | Nagler et al.    | 370 | 108  |  |
|           | 54 | 5,157,690 | 10/20/92 | Buttle           | 375 | 14   |  |
|           | 55 | 5,134,611 | 7/28/92  | Steinka et al.   | 370 | 79   |  |
|           | 56 | 5,119,403 | 6/2/92   | Krishnan         | 375 | 39   |  |
|           | 57 | 5,119,401 | 6/2/92   | Tsujimoto        | 375 | 14   |  |

EXAMINER  
\*EXAMINER

*Pankaj Kumar*

Initial if reference considered, whether or not citation is in conformance with MPEP 600. draw line through citation if --

DATE CONSIDERED 2/2005

|   |    |           |          |                    |  |        |                               |
|---|----|-----------|----------|--------------------|--|--------|-------------------------------|
| FORM PTO-1449 U.S. Department of Commerce<br>Patent and Trademark Office      |    |           |          |                    | Attorney Docket Number:<br>RAL919980074US2/4269-61CT |        | Serial No.:<br>to be assigned |
| LIST OF DOCUMENTS CITED BY APPLICANT<br><br>(Use several sheets if necessary) |    |           |          |                    | Applicants: Abdelilah et al.                         |        |                               |
|   |    |           |          |                    | Filing Date: concurrently herewith                   |        | Group: unknown                |
| Ph  | 58 | 5,067,125 | 11/19/91 | Tsuchida           | 370  | 79     |                               |
|   | 59 | 5,052,000 | 9/24/91  | Wang et al.        | 371  | 43     |                               |
|   | 60 | 5,040,190 | 8/13/91  | Smith et al.       | 375  | 4      |                               |
|   | 61 | 5,033,062 | 7/16/91  | Morrow et al.      | 375  | 7      |                               |
|   | 62 | 5,014,299 | 5/7/91   | Klupt et al.       | 379  | 98     |                               |
|   | 63 | 4,995,030 | 2/19/91  | Helf               | 370  | 32.1   |                               |
|   | 64 | 4,985,902 | 1/15/91  | Gurcan             | 375  | 14     |                               |
|   | 65 | 4,972,360 | 11/20/90 | Cuckier et al.     | 364  | 724.04 |                               |
|   | 66 | 4,901,333 | 2/13/90  | Hodgkiss           | 375  | 98     |                               |
|   | 67 | 4,890,303 | 12/26/89 | Bader              | 375  | 107    |                               |
|   | 68 | 4,884,285 | 11/28/89 | Heynen et al.      | 375  | 25     |                               |
|   | 69 | 4,868,863 | 9/19/89  | Hartley et al.     | 379  | 98     |                               |
|   | 70 | 4,797,898 | 1/10/89  | Martinez           | 375  | 7      |                               |
|   | 71 | 4,792,964 | 12/1988  | Yoshida            | 375  | 371    |                               |
|   | 72 | 4,760,598 | 7/26/88  | Ferrell            | 380  | 44     |                               |
|   | 73 | 4,720,861 | 1/19/88  | Bertrand           | 381  | 36     |                               |
|   | 74 | 4,578,796 | 3/25/86  | Caralambous et al. | 375  | 8      |                               |
|   | 75 | 4,577,310 | 3/18/86  | Korsky et al.      | 370  | 58     |                               |
|   | 76 | 4,450,556 | 5/22/84  | Boleda et al.      | 370  | 58     |                               |
|   | 77 | 4,434,322 | 2/28/84  | Ferrell            | 178  | 22.13  |                               |
|   | 78 | 4,270,027 | 5/26/81  | Agrawal et al.     | 179  | 81R    |                               |
|   | 79 | 4,237,552 | 12/2/80  | Aikoh et al.       | 370  | 83     |                               |
|   | 80 | 4,132,242 | 1/2/79   | Carroll, Jr.       | 137  | 263    |                               |
|   | 81 | 4,112,427 | 9/5/78   | Hofer et al.       | 340  | 347    |                               |
|   | 82 | 4,539,675 | 9/3/85   | Fisher             | 370  | 32     |                               |
|   | 83 | 3,729,717 | 4/24/73  | de Koe et al.      | 340  | 172.5  |                               |
|   | 84 | 3,683,120 | 8/8/72   | Schenkel           | 179  | 15A    |                               |
|   | 85 | 3,557,308 | 1/19/71  | Alexander et al.   | 178  | 69.5   |                               |

EXAMINER  
\*EXAMINERParviz Khan

Initial if reference considered, whether or not citation is in conformance with 35 U.S.C. 100. do not initial elsewhere

DATE CONSIDERED

2/2005

| <b>FORM PTO-1449 U.S. Department of Commerce</b><br><b>Patent and Trademark Office</b> |     |   |          | Attorney Docket Number:<br>RAL919980074US2/4269-61CT |       | Serial No.:<br>to be assigned |                         |
|--|-----|---|----------|--|-------|-------------------------------|-------------------------|
| <b>LIST OF DOCUMENTS CITED BY APPLICANT</b>  |     |   |          |  |       |                               |                         |
| (Use several sheets if necessary)  |     |   |          |  |       |                               |                         |
|  |     |   |          | Applicants: Abdelilah et al.                         |       |                               |                         |
|  |     |   |          | Filing Date: concurrently herewith                   |       | Group: unknown                |                         |
| <b>FOREIGN PATENT DOCUMENTS</b>  |     |   |          |  |       |                               |                         |
|  |     | Document Number   | Date     | Country  | Class | Subclass                      | Translation<br>Yes   No |
| Ph   | 86  | WO 98/37657   | 8/27/98  | PCT  | H04L  |                               |                         |
| ↑  | 87  | WO 96/18261   | 6/13/96  | PCT  | H04M  | 11/00                         |                         |
| ↑  | 88  | 0 669 740 A2  | 12/14/94 | Europe   | H04L  | 27/00                         |                         |
| ↑  | 89  | 0 659 007 A2  | 11/8/94  | Europe   | H04M  | 11/06                         |                         |
| ↑  | 90  | 0 473 116 A2  | 8/27/91  | Europe   | H04N  | 1/00                          |                         |
| ↑  | 91  | 2 345 019   | 3/19/76  | France   | H04L  | 27/10                         | A65                     |
| <b>OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)</b>          |     |   |          |  |       |                               |                         |
| Ph   | 92  | Erup, et al., "Interpolation in Digital Modems - Part II: Implementation and Performance," IEEE Transactions on Communications, Vol. 41, No. 6, June 1993, pp. 998-1008   |          |  |       |                               |                         |
| EE   | 93  | Fischer, "Signal Mapping for PCM Modems," V-pcm Rapporteur Meeting, Sunriver, Oregon, USA, September 4-12, 1997, 5 pgs.   |          |  |       |                               |                         |
| 9  | 94  | Gardner, "Interpolation in Digital Modems - Part I: Fundamentals," IEEE Transactions on Communications, Vol. 41, No. 3, March 1993, pp. 501-507   |          |  |       |                               |                         |
| CM   | 95  | Humblet et al., "The Information Driveway," IEEE Communications Magazine, December 1996, pp. 64-68  |          |  |       |                               |                         |
| CM   | 96  | Kalet et al., "The Capacity of PCM Voiceband Channels," IEEE International Conference on Communications '93, May 23-26, 1993, Geneva, Switzerland, pp. 507-511  |          |  |       |                               |                         |
| CM   | 97  | Mueller et al., "Timing Recovery in Digital Synchronous Data Receiver," IEEE Transactions on Communications, Vol. Com-24, No. 5, May 1976, pp. 516-531  |          |  |       |                               |                         |
| CM   | 98  | Okubo et al., "Building Block Design of Large Capacity PCM-TDMA Subscriber System and Direct Digital Interface to Digital Exchange," Japan Radio Co., Ltd., Japan, pp. 69-73  |          |  |       |                               |                         |
| CM   | 99  | Pahlavan et al., "Nonlinear Quantization and the Design of Coded and Uncoded Signal Constellations," IEEE Transactions on Communications, Vol. 39, No. 8, August 1991, pp. 1207-1215  |          |  |       |                               |                         |
| CM   | 100 | Proakis, "Digital Signaling Over a Channel with Intersymbol Interference," Digital Communications, McGraw-Hill Book Company, 1983, pgs. 373, 381  |          |  |       |                               |                         |
| CM   | 101 | Williams et al., "Counteracting the Quantisation Noise from PCM Codecs," BT Laboratories, UK, pp. 24-29   |          |  |       |                               |                         |
| CM   | 102 | Ayanoglu, et al.; <i>An Equalizer Design Technique for the PCM Modem: A New Modem for the Digital Public Switched Network</i> ; IEEE Transactions on Communications; Vol. 46, No. 6; June 1988; Pages 763-774   |          |  |       |                               |                         |
| CM   | 103 | Picchi, G. et al.; <i>A blind Sag-So-DFD-FS equalizer</i> , Inst. Of Electron. & Telecommun., Pisa Univ., Italy, This paper appears in: Communications, 1988, ICC '88. Digital Technology -Spanning the Universe. Conference Record., IEEE International Conference |          |  |       |                               |                         |

EXAMINER  
\*EXAMINER*Pamela Plummer*Initial if reference considered, whether or not citation is in conformance with MPEP 600.4(a). *12/2005*DATE CONSIDERED *4/2002*